SCIENCE & GOVERNMENT REPORT

The Independent Bulletin of Science Policy

Vol. VIII, No. 6 | P.O. Box 6226A, Washington, D.C. 20015 | April 1, 1978

Carter's Science Adviser: A One-Year Appraisal

It's over a year now since Frank Press arrived on the job as Jimmy Carter's science adviser — informally for the first few months, while the papers were being processed, and then as director of the Office of Science and Technology Policy (OSTP) after he was sworn in on June 1. How's he doing?

The question, often asked in and around the scientific community, is difficult to answer. But that has more to do with the job than with its occupant. Presidential science advisers, dating back to the establishment of the post on a full-time basis in the Eisenhower Administration, do most of their work out of public view. Nothing furtive is involved; rather, they mainly function as advisers to the President, which means that most of their work is covered by the confidentiality principle that applies to most presidential advice. Furthermore, little of what they do lends itself to scorecard evaluation. A president, a legislative leader, or an agency head can be judged on the basis of hits and misses in operating or getting a program into being — at least that's the conventional scoring system in Washington. But the science adviser to the president doesn't have and isn't expected to have a program. He's there to assist the boss. And though the adviser may have some pet schemes of his own — which has been the case with all of them, including Press — the bulk of his work is as a lineman, not ball carrier.

American Science Policy, As Seen by the Soviets: Page 5

With that understood, it's possible to arrive at some judgments on Press's first year.

Perhaps the first thing to be noted is that under Press, OSTP survived what at one point was widely considered to be a rendezvous with oblivion. Committed to paring and reorganizing the federal establishment, Carter focused his initial efforts on the staffs of the White House and the Executive Office of the President, and at the outset of that exercise, it was widely expected that OSTP would get the ax. Press, however, successfully stated a strong case for keeping science advice on board, rather than relocating it outside the presidential orbit. As he put it, "The reorganization team came in here pretty well convinced that we had to go and they left as believers in this office."

OSTP did lose eight of its authorized 32 staff positions in the reorganization, but as Press points out, there was no real loss involved since the staff was never above the figure that was finally authorized. It also lost a number of ancillary functions that Congress wrote into its legislative charter, such as the preparation of an annual report and a five-year "outlook" report on research and development matters. Some Congressmen were annoyed by these and several other changes, since they eliminated a convenient means for holding OSTP to legislative account, but the fact is that OSTP emerged basically intact from the reorganization threat. It's still there, close to the executive center of things — Press is based in Old Executive Office Building, next door to the White House, while most of his staff is housed in the nearby New Executive Office Building.

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In Brief

Administration sources estimate that 700 additional academic research positions could result from the boost in basic research spending that the President has proposed for fiscal 1979. The money isn't earmarked for specific hirings, but concern about jobs, especially for younger researchers, figures large in government research planning — and academe is being informally urged to keep that in mind.

Meanwhile, federal manpower planners have concluded that the next 10 years will be critical in the scientific job market, but after that, supply and demand will even out, and there may even be shortages in certain specialties. Planning for getting through that crucial decade is focusing on incentives for early retirements to make way for the present and coming crop of Ph.D. youngsters.

Screams from academe are giving the Office of Management and Budget second thoughts about proposals to revise the standards for covering overhead costs on university research projects. Stanford, for example, says the proposed changes would cost it $7 million a year. OMB now points out that it's merely thinking about the matter and has invited comments, due May 1, to proposals published last month in the *Federal Register*.

We quote verbatim from the program for the annual meeting, May 31-June 2, of the California Society of Anesthesiologists:

"Fetal Monitoring: What the Anesthesiologist Should Know."

"Anesthesia for Vaginal Devilery."

And so forth.

. . . A Big Plus: Carter Supportive of R&D

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The next thing to be observed is that Jimmy Carter thinks well of the scientific enterprise and tries to be sensitive to its care and feeding, which makes work easier for the presidential science adviser. The importance of this sentiment cannot be exaggerated. Lyndon Johnson and Richard Nixon did not think well of the scientific enterprise. Mainly because scientists were prominent in the anti-war movement, those two presidents felt considerable annoyance toward the scientific community; in Nixon's case, the attitude was worsened by scientific opposition to the anti-ballistic missile and the SST, which, in combination with the Nixonian paranoia that filled the White House, made it impossible for any respectable science adviser to function usefully. The final measure, of course, was Nixon's total abolition of the White House science office.

Under Press, however, the resurrected office not only has survived a brush with abolition, but is the focal point for government involvement with an area of activity for which the President has expressed interest and support on a number of occasions. Carter did so when he awarded the National Medal of Science last year; his State of the Union Message stressed the importance of science and technology, and in the budget for fiscal 1979, basic research was accorded relatively generous treatment.

Press didn't create Carter's interest in science and technology, but when the President deems something to be important, influence automatically flows toward the people who handle that matter for him. The issue then becomes how well they can use the opportunity thus handed to them.

In Press's case, it appears that he's used the opportunity to establish a position as a valuable and reliable staff resource for the President and his senior aides, but that he hasn't engaged in the oldtime Washington game of empire building or personal glorification. What's clear about Press is that he's not bucking for greater authority, that he's not associated with one or another faction in various disputes within the administration, and that he's quite content to serve in an anonymous and neutral capacity. Press himself points out that he's not in the President's inner circle of advisers, but, rather, is in the group that serves the inner circle.

Recently, in a long conversation with SGR, he said, "I feel comfortable in the job. I'm involved with all the issues that I want to be involved with. The people here [at the White House] regard OSTP as a high-quality office with an excellent staff. We're well regarded," he said confidently.

The optimism inherent in that self-appraisal appears to be based in fact. OSTP *is* well regarded by many other presidential staffers, but it's important to note it's esteemed as a kind of down-the-middle service organization for the President and his senior aides. That function is not to be denigrated; it is indeed a valuable one, and it is, after all, what OSTP was established to perform. But in a city where power is the most relished commodity, the role of neutral adviser to power is considered to be of second-rank importance, even when, as in the case of Press, it is well performed. Press proceeds on the assumption that issues should be decided on the merits, but not often do things work out that way in national politics. Which accounts for the fact that the news media, in their incessant searchings and speculations on who's important in Washington, are yet to take note of Frank Press. The capital abounds with a generous supply of serious controversies, many of them in Press's area of professional concern — such as energy planning, arms control, technology transfer to the Soviet bloc, and so forth. If Press is identified with any particular camp in these controversies, it is a well-kept secret.

Which perhaps is why, in a curious and roundabout fashion, he and his office have indeed become an important part of the presidential staff operation.

The most revealing indication of this is that OSTP's analyses and advice are respected and welcomed by the Office of Management and Budget, where senior aides express the feeling that the science adviser merits trust, not as a spokesman for science, but as a member of the White House staff responsible for science.

Unidentified with any particular factions, OSTP has, in fact, been deeply involved — not as a partisan but as

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ISSN 0048-9581

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Independently published by *Science & Government Report*, Inc., twice monthly, except once each in January, July and August. Annual Subscription: Institutions, $75 (two years, $140); individuals, $44 (two years, $75). Editorial offices at 3736 Kanawha St., N.W., Washington, DC 20015. Tel. (202) 244-4135. Second class postage paid at Washington, DC. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. SGR is available on Xerox University Microfilms.

NSF Reports Growth in Academic Job Market

Having long trumpeted the thesis that the bottom has fallen out of the academic job market for scientists and engineers, the National Science Foundation now cheerfully concludes that it isn't so — that since 1969, their employment in universities has averaged an annual growth of three per cent.

This finding, contained in a report by NSF's Division of Science Resources Studies, is even a bit startling to NSF's own analysts, who note that the continuing pace of three-per-cent growth took place "despite claims of financial problems by officials of many institutions of higher learning and by various higher education analysts." To which they add:

"The three-per-cent average annual growth in employment of full-time scientists and engineers at academic institutions from 1969 to 1977 agreed closely with the four-per-cent annual growth in total higher education enrollment and the three-per-cent annual growth in total graduate enrollment in the sciences and engineering from 1971 to 1976."

All of this is more than a bit mysterious, in view of the steady outpouring of dour reports that have emanated from both academe and the Foundation itself in recent years. And the mystery is not lessened by NSF's commentary on the numbers:

"The slow steady growth in employment of scientists and engineers may be attributed to a combination of factors, such as: (1) The recent upward trend in graduate enrollment in the S/E (science/engineering) fields; (2) real, though small, growth in academic R&D (research and development) expenditures, due largely to increased Federal support; (3) an increase in institutional control of personnel costs (through more restrictive tenure-granting policies and by hiring of a larger percentage of lower-ranked instructional staff); (4) a possibility that employment in S/E fields is increasing at the expense of non-S/E fields; and (5) deferral of some non-personnel-related expenditures in periods of budget cutbacks."

The phrase "may be attributed" does suggest the possibility of doubt, but after allowing for that, some of the cited factors do invite curiosity.

For example, NSF has repeatedly said that inflation and sparse federal budgets have reduced purchasing power for basic research to pre-1970 levels. And though it does note that between 1970 and 1976, academe experienced a shift toward applied R&D (from 23 to 32 per cent of its total R&D effort), it is difficult to see how employment of scientists and engineers has steadily risen while support for research has steadily fallen. Three-fourths of scientists and engineers in universities are primarily engaged in teaching, rather than research, and that proportion has varied only slightly since 1969.

NSF notes that "Employment of full-time R&D scientists grew at an average annual rate of 2.1 per cent from 1969 to 1977, compared to an average annual increase of 1.4 per cent in academic R&D expenditures for approximately the same fiscal years, 1970-76. The difference in growth patterns may be explained, in part, by

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PRESS

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an assembler of information and formulater of options — in a slew of controversial issues. These include such large and emotion-rousing issues as the MX missile, nuclear licensing procedures, patent policy, mineral resources, and development of a Carter Administration space policy, for which Press is the White House "lead." And they also include less controversial but still highly important issues, such as the design of efforts to spur industrial innovation, development of an electronic information system for the presidential staff, and — of special interest to Press, a career academic — an extra measure of assistance for academic basic research.

Press wryly notes that a standard question asked of presidential science advisers is, "How often do you see the President?" Rarely alone, he says, but he quickly adds that one-on-one relations between President and science adviser are not the measure of the latter's performance or influence. "If there's a matter I want to bring to the President's attention," he says, "it can be done quickly. I can get an answer back in a matter of hours."

What does count, he says, is that OSTP is deeply involved in White House operations. The measure of this, he explains, is that he attends the weekly cabinet meeting, as well as the daily senior staff meeting. In addition, when matters relevant to his responsibilities are discussed by the President, he is almost always present. For example, he says, when congressional groups visit Carter to discuss R&D-related matters, Press is invited to join the discussion.

What it all comes down to is that it's the President who establishes the maneuvering area for his science adviser. Within that staked out area, it appears that Press is making maximum use of the available opportunities. No pre-election outsiders have yet cracked Jimmy Carter's inner circle, which remains almost exclusively composed of companions from the long march to Washington.

But in the second circle, Press ranks as high as any. —DSG

. . . Private Institutions Emerge from Job Lag

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the labor-intensive nature of academic R&D costs. Non-personnel-related spending, since it can be postponed in a period of economic constraints, is more dependent upon short-run financial trends than is employment. There is less flexibility for deferral of labor-intensive costs because of the fixed nature of salaries for both tenured and for full-time support staff."

Whether that explains away the peculiarity of research staffs expanding faster than research spending is questionable. Furthermore, the suggestion that costs are being held down "by hiring of a larger percentage of lower-ranked instructional staff" is also interesting. If lower-ranked, and presumably younger, staff is getting hired, why is it so often claimed by NSF and others that the so-called tenure-log jam is preventing young scientists and engineers from obtaining academic jobs? It would appear that academic staffs are expanding more or less in line with enrollments, and it is very likely that younger persons predominate among those getting hired.

Where the numbers provide illumination is on the difference between private and public institutions in regard to hiring and employment, but even here there are some matters that are difficult to reconcile with the litany of disintegration that has been coming from NSF and academe. Thus, the report states:

"Between 1969 and 1977, publicly controlled institutions have increased their employment of full-time scientists and engineers by four per cent on an average annual basis. They employed 70 per cent of all full-time personnel in 1977, up from 64 per cent in 1969. Private institutions retained virtually the same employment level between 1969 and 1975; however, it is encouraging to note that in the 1975-77 period, employment rose by two per cent, an indication that the financial plight of private institutions may not be as severe in recent years as originally thought."

About the only place where these latest figures on academic employment of scientists and engineers do dovetail with the gloomy reports of recent years is in the finding that "More than one-fourth of both public and private institutions reported reductions in their employment levels."

Thirty-seven per cent of the employment decline was at the master's-granting level, while two-year institutions showed the smallest drop, 23 per cent. Nevertheless, the NSF study found that "the total number of full-time scientists and engineers employed at master's-granting institutions increased by three per cent from 1976 to 1977, while employment at two-year institutions remained at virtually the same level."

All of which leads the NSF analysts to a conclusion that is somewhat out of line with what we've been told in recent years:

"While budget constraints, fluctuations in student enrollment, significant inflation, and reduced value of endowments all have had an adverse impact on academic science programs at many institutions of higher education, the majority of institutions have thus far managed to continue without reducing employment of scientists and engineers."

As might be expected, the analysis picks up the old-time alarmist theme by warning that "If these economic pressures continue, academic institutions may soon need to address questions involving possible reductions in their overall employment levels, and thus, also of scientists and engineers, and reallocation of financial and personnel resources between teaching and research functions. Other issues that are being addressed are associated with aging of faculty and severe limitations in the number of positions available to young investigators."

It is both thoughtful and responsible of NSF to put out these figures and an accompanying analysis. But more is at stake in these matters than a simple census of the academic job market.

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Full-time scientists and engineers employed at universities and colleges by field: January 1969 and January 1977

Field	1969	1977	Percent change 1976-77	Average annual percent change 1969-77
Total, all areas . .	187,082	236,225	2.6	3.0
Engineers	21,431	23,898	4.2	1.4
Physical scientists .	25,040	27,500	1.2	1.2
Environmental scientists	4,935	7,879	8.5	6.0
Mathematical and computer scientists	18,390	23,874	3.2	3.3
Life scientists	74,882	94,759	3.0	3.0
Psychologists	11,536	17,325	3.0	5.2
Social scientists . . .	30,868	40,990	(1)	3.6

[1]Less than 0.5 percent change.

US Science Policy: How it Looks to the Soviets

The following excerpt is from an essay, "American Science Policy Through Soviet Eyes: A Reflection of Soviet Concerns and Priorities," by Thane Gustafson, of Harvard. The essay is contained in a 455-page volume, Soviet Science and Technology, *based on a conference supported by NSF and conducted in 1976 by George Washington University. Copies are available for $15 each from the National Technical Information Service, Springfield, Va. 22151. Request PB276968/AS.*

Soviet descriptions of the American science system portray it as shaped by two forces — one positive and one negative. On the negative side, it is a response to politics. The bourgeois state attempts to stabilize and rationalize the capitalist order, by regulating the monopoly corporations and by taking over tasks which they are unable or unwilling to perform themselves — such as basic research. Hence the enormous increase since World War II in the role of the federal government in supporting and managing science and technology. However, in the Soviet explanation, the corporations still have the power to subvert government policies and turn them to the purposes of big business. Many of the characteristic practices of the American science system, such as that of reserving the bulk of the actual performance of the government-supported research for private institutions, are viewed in the Soviet sources as evidence that U.S. science policy is subordinated to the interests of monopoly capital. Likewise, supporting science through a large number of government agencies, a practice which is vaunted in American books as "pluralism of support," is seen instead as a reflection of the fierce competition which financial and industrial groups wage among themselves. The great variety of organizational arrangements characteristic of U.S. politics and the informality of our advisory mechanisms and administrative procedures only benefit the interests of influential business concerns. All in all, concludes one writer, "under the conditions of capitalism the formation of a scientifically based, single, country-wide policy in any sphere of life is hardly to be expected," and science policy is no exception.

At the same time, U.S. science policy is also seen as a response to the needs and growth of science. The dominant trend in science today, as the Soviets see it, is the "industrialization of scientific production" (i.e. large multidisciplinary teams, automation of data gathering and processing, increasing scale and complexity of research and development). According to Soviet theories, this trend toward Big Science causes corresponding changes in government science policy, toward increased centralization changes in government science policy, toward increased centralization and rationalization through techniques like systems analysis, PPBS, cost-benefit studies, computerized information systems, advanced management systems (PERT, network analysis), etc.

However, the Soviets' interpretive scheme leads them into an awkward paradox. "Advanced" methods of science management and evaluation have had mixed results in the United States (a point that Soviet observers are aware of), while many of the pluralistic, informal devices which are supposedly "political" adjustments (and hence "objectively" retrograde) turn out to be very useful for science. One Soviet book speaks of the Americans' constant readiness to experiment, not only in science, but also in politics and the economy, adding

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EMPLOYMENT *(Continued From Page 4)*

For nearly a decade now the public has been fed dire warnings of the imminent disintegration of American science and, in particular, of its academic base. Science, nevertheless, has managed to thrive. To the embarrassment and mixed emotions of the elders of science, the US continues to reap a disproportionate share of Nobel prizes and to dominate virtually all fields of research, as is evidenced by relative national standings in scientific publications. Still, the dirges continue that American science is on the brink of catastrophe and in some departments may even have gone over the edge.

On the positive side, one effect has been to squeeze some additional research funds out of the federal government, thus demonstrating that whining does have its payoff. On the negative side, however, the effect, quite simply, is an erosion of credibility that could prove costly.

NSF's findings on the academic job market are difficult to reconcile with the assiduously conveyed theme of a depression in the academic job market. There have, of course, been ups and downs among various disciplines as well as among various institutions. But steady growth of three per cent in employment is quite healthy. If NSF's own analysts express skepticism toward reports of a job depression in academe, grounds for skepticism are indeed substantial. —DSG

(The report, "Academic Employment of Full-Time Scientists and Engineers Increased Another Three Per Cent in 1977," is available without charge from Division of Science Resource Studies, National Science Foundation, 1800 G St. N.W., Washington, DC 20550. Request NSF Publication 77-327).

. . . Find Too Much Red Tape in US Research System

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that this trait gives American science policy a high degree of flexibility and maneuverability. . . .

The features of the American science system which have the most interest in their eyes often turn out to be already a part of approved Soviet practice: for example, the growing use of Soviet universities as centers for graduate training and advanced fundamental research, or the use of contracts to facilitate the application of research findings to technology, or the fashion for systems methods. Because of their caution, Soviet observers tend to remain at the surface of the most interesting issues, passing along the views of American writers, but venturing an opinion themselves only when it falls squarely within their overall interpretive scheme.

To illustrate, let us take one of the most distinctive differences between the Soviet and American science systems. In financing research, the Americans rely primarily on the so-called "project system," which supports individual researchers (by means of grants and contracts) rather than institutions. The Soviet system is based instead on block funding to large institutes, whose directors and lab chiefs have great power over the choice of projects to be supported.

In the project system are intertwined difficult questions both of political power and of scientific effectiveness. Let us take first the matter of effectiveness, focusing particularly on project grants, which in the United States are the principal means of support for fundamental research. Their advantage, in the Americans' eyes, is that they select the most promising research topics through a nationwide competition instead of a local one. This insures, at least in principle, a higher level of scientific merit and flexibility than institutional funding can, since the reviewers of each proposal are nationally-known specialists in the same precise field as the applicant. They can make their decisions without being affected by the internal politics of institute or university departments. Soviet observers recognize this advantage. Commenting on the project grant system, which he had seen at work in the United States, the deputy director of a Soviet research institute contrasted it with his own system:

> Soviet sources also comment that the project system makes it possible for scientist-administrators in Washington to influence the direction of research, because support can be adjusted at the "margins" of each field, when the researcher applies for renewal. Sheinin notes that the unsatisfactory researcher will "lose face" and will be denied further awards. Soviet observers agree that this system makes researchers "more active." In contrast, explains one Soviet researcher, under the Soviet system of funding by institute,
>
> . . . the excessive generosity with which we are funded sometimes creates conditions which support idle exercises for years, under the umbrella of "unlimited freedom of inquiry." The champions of this freedom passionately exclaim, "Who can deny the possibility that my thesis, which seems unpromising today, may cause a revolution in scientific theory tomorrow!" Then examples are cited from the schoolchild's history of great scientific discoveries. . . .

Soviet writers point out that the National Science Foundation has used the leverage given to it by the project grant system to support new trends and ideas, and to encourage intensive work in fields which the Foundation feels are ripe for major advances. On the other hand, the Soviet literature is aware of the uncertainties that the project grant system creates for the researcher: ". . .we don't have to constantly worry about whether or not we will be able to continue experiments that have come to seem unpromising or inconsequential to the funding body. . . ."

A related problem, in the Soviets' view, is the paperwork and delay produced under the project grant system. Soviet visitors to American laboratories are astonished at the amount of written justification that must be supplied to Washington. One book quotes Princeton scientist G. Wilson on the "endless obstacle course and bureaucratic process" associated with applications for grants. It may seem ironic to hear Russians criticizing other countries for their red tape, but American visitors to the more prestigious Soviet institutes agree that their Soviet colleagues do not seem to have to submit as elaborate written justifications as does, say, the American director of a national center.

The project system can also be analyzed as a response to a political problem. Its origins as an administrative device lie in the philanthropic foundations; and it was adopted by government agencies in an effort to reassure university scientists that government support of science

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A Couple of Interesting Reports

Available without charge: *A Brief History of the Senate Committee on Commerce, Science, and Transportation and its Activities Since 1947* (138 pages.) Contains brief outlines of the committee's legislative record, membership, and so forth. Request from the Commerce Committee, Suite 5202, Dirksen Building, US Senate, Washington, DC 20510.

Also available from the same Committee is the text of its hearings last November on *Regulation of Recombinant DNA Research.* Request Serial No. 95-52.

. . . Their System Doesn't Depend on Proposals

would not mean government dictation. The crucial issue here is control over directions of research. Feelings run high among American scientists and administrators over whether it is better to set research priorities "from the bottom up" by relying primarily on the opinions of researchers or "from the top down," by relying on those of scientist-administrators. As it turns out, the project system can be turned to serve either viewpoint, depending on the field and the agency involved. The implications of this point are one of the most hotly debated topics in American science policy. . . [In the words of one Soviet Research Director]:

> I cannot recall a single instance in which the funds allocated to us by the Academy of Sciences ever depended at all on what was written in a proposal. Even within the institute itself, the allocation of resources is more apt to depend on the number of personnel in a laboratory than on the productivity of the research conducted there.

In other words, the project grant system transfers to the national policymaking level the responsibility for extra-scientific considerations such as stability of employment, maintenance of facilities, or encouragement of young or minority group researchers. This in turn makes possible, again in principle, a more finely tuned management of the quality and progress of each field, and a more rapid response to new ideas, than can be achieved under a system of institutional funding.

Unfortunately, Soviet observers do not venture very far into it, or into the connections between political power and scientific effectiveness. Take for example Soviet references to "proposal pressure," (that is, the variable "pressure" generated by the flow of grant proposals from each field), which is used by some science-supporting agencies as a guide to priority setting. Now, the "scientific" rationale for using proposal pressure, as one Soviet writer notes, is that it reflects researchers' perceptions of the intellectual opportunities available to them, and hence it can be a valuable indicator of the needs of various disciplines. But at the same time, an exclusive reliance on proposal pressure means abandoning control over priority setting to the scientist in the field. In recent years, scientist-administrators in Washington have tended to assert their own authority and to rely less on proposal pressure. This may be the most important single trend in American science policy today. But it is not dealt with to any great extent by Soviet observers.

Similarly, one of the most difficult issues in the project mode of support is the proper role of "peer reviewers" — non-government researchers who come to Washington to judge proposals and give advice. Soviet sources recognize the significance of the peer review committees, which under the name "expert commissions" *(ekspertnye komissii)* are widespread in the Soviet Union too. However, the Soviet literature gives little space to an important countervailing trend, the growing role of professional administrators, such as the program directors of N.S.F., and their often competitive relations with peer review committees. One Soviet observer appears to believe that the influence of outside scientists is growing relative to that of professional science administrators. But most American scientists believe the opposite.

Perhaps the most controversial of all questions surrounding the peer review system is whether it is representative or fully honest. One Soviet source adopts without comment the view of some American critics that a "lobby" of the privileged universities (one of the signs of which is over-representation on peer review committees) accounts for their dominant share of federal support. Another acknowledges that the "privileged" universities also have the highest concentration of leading scientists, but he asserts that this is due to the abundant flow of funds produced by the lobby. . . .

Chinese Expand International Science Ties

Mainland China is now reaching out for ties with foreign scientific communities, according to the Committee on Scholarly Communications with the People's Republic of China (CSCPRC), which administers Sino-US scientific exchanges.

Following the announcement last year of plans to develop and modernize the PRC's scientific capabilities, the Chinese Academy of Sciences has entered into exchange agreements with Japan, France, and Romania, according to the CSCPRC.

The Sino-French accord is described as unique in Chinese dealings with western nations, since it involves collaborative efforts between the two countries. Signed January 21 by the foreign ministers of the PRC and France, the agreement calls for joint scientific studies of animal genetics, medicinal plants, study of a program for a scientific data bank at the Peking Institute of Sciences, and a geological study, principally of tungsten resources.

The link to Japan is through a newly established Japan-China Science and Technology Association, which, according to the CSCPRC, will "arrange . . . exchanges; exchange academic documents and data; organize forums and research meetings between scientists of the two countries; and publish a bulletin which will include technical data."

Kanetaka Ariyama, a Japanese physicist, was elected president of the Association. High-level blessings for the new organization were indicated by congratulatory telegrams from the Chinese Academy of Sciences and the Technical Association of the People's Republic of China.

Details of the Romanian ties were not made available, but the CSPRC notes that the agreement was concluded by a high-ranking Chinese delegation led by Chien San-chiang, an internationally known physicist who is Deputy Secretary-General of the Chinese Academy.

Meanwhile, the CSPRC has received a grant from the National Science Foundation to prepare a comprehensive study of the state of the natural sciences, technology, the social sciences, and the humanities in the PRC. The first of its kind since a 1961 study published by the American Association for the Advancement of Science *(Science in Communist China)* the new work is scheduled for completion in spring 1979.

Walter Rosenblith, Provost of MIT, is chairman of the steering committee for the project. The director is Leo A. Orleans, China Research Specialist at the Library of Congress.

While all this is going on, there have been no signs of additional activity in US scientific and technical exchanges with the PRC. The Chinese have adamantly maintained that an expansion of contacts cannot take place while the US continues to recognize the government of Taiwan. US diplomatic relations with the PRC are not at the full-fledged embassy level. And, in the view of Americans associated with the exchange program, the present range of activities add up to little more than "scientific tourism."

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